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Cornel Nesseler, Carlos Gomez-Gonzalez, Helmut Dietl, and Julio del Corral

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University of Zurich, Plattenstrasse 14, CH-8053 Zurich,
http://www.business.uzh.ch/forschung/wps.html

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Contact Details

Nesseler, Cornel

University of Zurich

Department of Business Adminstration

Plattenstrasse 14., CH-8032 Zurich, Switzerland

cornel.nesseler@business.uzh.ch

Tel.: +41 44 634 53 13

Fax.: +41 44 634 53 29

The Role of African Americans in the Executive Labor Market: The Case of Head Coaching in College Basketball

By CORNEL NESSELER, CARLOS GOMEZ-GONZALEZ, HELMUT DIETL, AND JULIO DEL CORRAL*

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In this paper, we examine how the number of African American and White American coaches in college basketball evolved since 1947. Particularly, we focus on 1973 when the league split up. The separation created asymmetric regulatory requirements. This led to a significant difference in the number of African American coaches. The evidence suggests that less regulated institutions employ fewer African American coaches. The results are time consistent, not clustered geographically, and unrelated to specific institutions. Our results have policy implications for college sports as well as other industries which have similar working conditions. (JEL J16, J7, L83)

The role of ethnic minorities in leading positions, which has evolved in recent decades, is a challenging issue in society. Managers are relevant figures for the success of companies and organizations. By managing the available resources and coordinating a group of subordinates, they are responsible for the results. Previous research has identified similar roles for coaches in sports, team leaders, and managers, which include training and motivating team members, devising tactics, and managing objectives (Ladyshewsky 2010; Marsh 1992). Kahn (2000) explains that professional sports serve as a laboratory to understand the frictions of the labor market due to the vast amount of

*del Corral: University of Castilla, Ronda de Toledo, s/n, 13071, Ciudad Real, Spain, Julio.Corral@uclm.es; Dietl: University of Zurich, Plattenstrasse 14, 8032 Zurich, Switzerland, helmut.dietl@business.uzh.ch; Gomez-Gonzalez: University of Castilla-La Mancha, Ronda de Toledo, s/n, 13071, Ciudad Real, Spain, Carlos.Gomez@uclm.es; Nesseler: University of Zurich, Plattenstrasse 14, 8032 Zurich, Switzerland, cornel.nesseler@business.uzh.ch

information which is available for all agents who are involved in the production process.

African Americans in the US face challenges similar challenges to other minorities in the US and in other countries. The limited number of African Americans in influential positions and the data availability often do not allow comparisons in the literature.[1] Moreover, the pool of potential candidates is highly asymmetric due to the sizable share of White Americans with a respective education (Arcidiacono and Koedel 2014). Thus, an analysis of an industry with sufficient African Americans in leading positions (*e.g.*, coaches in college basketball) helps us to better understand racial differences.

Similar to executive managers or CEOs in other industries, sports coaches in college programs hold a unique position in their company or team. Head coaches in NCAA college sports are important for the universities and are usually among the highest paid employees. In Division I Men's Basketball big-time programs coaches benefit from million dollar contracts, far beyond the average faculty salary of university presidents (Benford 2007). Additionally, basketball is an important part of African American culture in the US (Ogden and Hilt 2003) and a large pool of candidates is available to access coaching positions. Lapchick and Guaio (2015) and Harper, Williams Jr., and Blackman (2013) report that in the two major basketball leagues (NBA and NCAA) the majority of players are African Americans (respectively 70% in 2015 and 64.3% between 2007 and 2010). National broadcasting and its revenues confirm the importance of college basketball in a broader context.[2]

Becker (1957) explains that theoretically when discriminatory behavior rules companies and organizations both the role of minorities in the society and productivity are compromised. According to Becker (1957), the negative consequences in the case of discrimination at the level of head coaches are economically even more relevant. The organizational structure of companies and institutions influences the possibilities of minorities to enter the executive labor market. Hawkins (2013) discusses that in NCAA college sports institutions are predominantly managed by White Americans, whose preferences prevent other minorities from reaching leadership positions. However, Dovidio and Gaertner (2000) find that the effect of racial preferences on hiring decisions diminishes with either high or low profile candidates. The organization model of NCAA Men's Basketball, based on three different Divisions with uneven performance standards, provides a unique opportunity for research.

This paper examines the evolution of African American coaches in college basketball after new regulations and structural changes (*viz.*, the introduction of a third Division) were incorporated in 1973. Although establishing causal relationships after policy changes is complicated, *e.g.*, Shertzer, Twinam, and Walsh (2016), it is important to examine their effect over time. To the best of our knowledge, no research has analyzed the historical share of African American and White American coaches in college basketball after the modification of the Division system in 1973. The study distinguishes between all college basketball NCAA Divisions, which have different missions, regulations, and requirements for participants.

[1] Less than 1% of Fortune 500 CEO's are of African American descendant.

[2] The National Collegiate Athletic Association (NCAA) signed a 14-year contract to sell the television broadcast rights for the Division I Men's Basketball for $10.8 billion in 2010 (Brown, Rascher, Nagel, and McEvoy 2017)

To further examine the differences between African American and White American coaches, we include their career paths and the respective colleges and universities geographic, financial, and historical information. The results show that the Divisional organization has exacerbated racial disparity. This analysis has implications for universities and colleges, coaches, and organizing bodies. Other industries might also recognize similarities in the evolution of African Americans in the executive labor market.

The rest of the paper is organized as follows. First, we provide concise historical background information on college basketball. Second, we describe the data that is available in our study. Third, we empirically examine the evolution of African American coaches before and after the introduction of a third Division. Finally, we discuss our results and their implications providing some conclusions at the end of the paper.

I. Historical background

A. The beginnings of college basketball

Basketball, invented by Dr. James Naismith in 1891, became a popular college sport. Competition among colleges started as early as 1892; which is also the year of our first school record from Geneva college. The 13 original rules set in 1891 have changed frequently since 1894 and are evaluated on a yearly basis. Notable rule changes include, among others, modification of the personal foul (1905, 1910, 1915, 1942, 1944, 1987, 1990, and 2002), free-throw line (1894, 1906, and 1955), ball (1930, 1934, 1938, and 2002), dunk (1967, 1976, and 2015), and shot clock (1985, 1991, 1993, and 2014). College teams first participated in annual championships against non-colleges (1915) and later in intercollegiate championships (1922). The set-up of the intercollegiate tournaments changed frequently (1950, 1953, 1975, 1980, 1985, 2001, and 2011) and since 1939 is organized by the NCAA (Crowly 2006).

Basketball quickly grew as a sport as the first players and Young Men's Christian Association (YMCA) personnel played and spread the sport throughout the US (George 1992). In the beginning, basketball was predominantly played by White American athletes and students. The possibilities for African Americans to play were severely limited. Until 1914, eight African American students in the US had represented their college (George 1992). In 1916 a Black collegiate conference was introduced to offer African American students a platform to compete. This gave African Americans the opportunity to play at historically black colleges and at some white colleges in the north. Due to segregation, African Americans were excluded from playing in southern states (Davis 1994). Generally, the living and studying conditions for African Americans at white colleges were harsh and no better around the basketball court (Wolters 1975).

Although basketball gained popularity among African American students, most major colleges were reluctant to include African American players on their teams.[3] After 1947 the share of African

[3]One famous exception was Jackie Robinson who later became a professional baseball player.

American athletes at predominantly white colleges steadily increased from 1% in 1948 to 34% in 1975 (Yetman, Berghorn, and Thomas 1982). In the following decades, legal, social, and political changes improved the situation for African American athletes and students at colleges (Davis 1994). Nonetheless, several authors show that African American college basketball players still face racial stereotypes (Davis 1994; Lapchick 1995; Love and Hughey 2015), are underrepresented in the classroom (Lapchick and Guaio 2015), and are exploited by athletic departments (Leonard 1986; van Rheenen 2013).

Basketball coaches have a prominent role in representing their colleges and are under constant observation (Bloom, Crumpton, and Anderson 1999; Becker and Wrisberg 2008). Successful coaches shape an area and influence the evolution of the sport. For example, Dr. Walter Meanwell, coach of the Wisconsin Badgers (1911-1916 and 1920-1933), is the acclaimed originator of the fast break; John Wooden, coach of the UCLA Bruins, has the most successful run in college history (winning 10 NCAA championships in 12 years); Mike Krzyzewski, coach of the Blue Devils at Duke University, won the most Division 1 matches (McCallum 1978).

African American coaches were active in Division 2 and Division 3 since those Divisions started in 1947 and 1973, respectively. Historically, however Division 1 was the slowest Division to introduce the first African American coach; Will Robinson in 1970. The first African American coach in our data, before the introduction of the Division system, is Byrd D. Crudup, who coached North Carolina Central in 1927.

In NCAA Men's Basketball, no rule prevents African American coaches from being hired. However, the number of African American coaches is very limited when compared to African American players. Figure 1 shows the evolution of African American players (blue dots) and coaches (red dots). While the number of African American players steadily increased during the analyzed period, the number of coaches improved only moderately. Currently, more than 60% of players in the Elite-8 teams are African Americans, while the share of African American coaches is below 20%.[4]

[Figure 1 near here]

B. The Division System

The Division system in NCAA Men's basketball started in 1947. Institutions could choose to enter Division 1 or 2, or to not enter the NCAA Division system. Since 1973 colleges can also join Division 3. Previous members of Division 2 either stayed in their Division or joined one of the other Divisions. The main reason the NCAA added another Division was because of "the increasing difficulty of maintaining a level playing field between smaller-budget schools and those with major athletics programs." (Crowly 2006).

Table 1 shows the number of institutions that switched Divisions from 1972 to 1973.[5] The results

[4] Elite-8 teams are the teams that compete in the quarterfinals of the largest NCAA Division 1 tournament every year.

[5] Table 1 from 1972 to 1973, is not a zero sum table because colleges and universities also ceased participating or records are missing.

show that the new Division 3 received most of its members from former Division 2 institutions. A smaller number comes from institutions who previously participated in Division 1 or outside the Division system. We include a list of all institutions that switched from Division 2 to Division 3 in the appendix.

[Table 1 near here]

The creation of Division 3 influenced the composition of the Divisions but not the total number of teams. Several teams in Division 2 switched to another Division or outside the Division system. Since then, the total number of teams competing in the NCAA steadily increased. Figure 2 shows how the number of teams evolved in every Division and outside the Division system.[6] The largest reduction of teams was in Division 2 after the 1973 creation of Division 3.

[Figure 2 near here]

The distinction between the Divisions in NCAA basketball is because of the different governance conditions among the colleges and universities. In the current Division system, Division 1 and Division 3 are asymmetric regarding financial status, athletic scholarships, number of athletes, and sports facilities. Grant, Leadley, and Zygmont (2014) specify differences in the Division system. While Division 1 is reserved for institutions with enough resources to afford high-level competition, Division 3 institutions are not allowed to offer any athletic scholarships. Division 2 teams are a mix, where athletes receive partial financial scholarships and local or in-state quotas may apply.[7] The number of undergraduate students who are enrolled in sport activities is considerably larger in Division 1 institutions compared to Divisions 2 and 3 (Grant et al. 2014).The number of participating students also influences market size and media attention (Woods 2015).[8]

The social impact of the athletic programs also differ in the Divisions (*e.g.*, educational development of the student athletes). Woods (2015) argues that Division 3 institutions that compete locally are more likely to focus on raising academic standards and reducing expenses, while Division 1 institutions need to maintain a highly competitive performance to attract media attention and economic resources. Finally, Division 1 and 2 institutions must fill out an annual self-study guide. The aim of the guide is to help institutions comply with rules, regulations, and finances. It also includes a section about cultural diversity.

The duties and remits of coaches also differ in the Divisions. While in Division 1 working with the team is a full-time activity, coaches in Division 2, but foremost in Division 3, may have additional responsibilities such as teaching and mentoring (Grant et al. 2014). To obtain the NCAA recruiting certification, coaches in Divisions 1 and 2 need to pass an extensive on-site test, while coaches in

[6]Data regarding Division affiliation is not available for every college since 1947, thus, un-ranked colleges and missing data are the same in our analysis.

[7]In 2017, the maximum number of scholarships in Division 1 Basketball per college or university were 11.7, and limited to 9 in Division 2. Athletic departments can give partial scholarships (*e.g.*, a 50% scholarship).

[8]For detailed information regarding the requirements to become an athlete in each division, please see NCAA (2017b).

Division 3 have to take an online open book Rules Test (NCAA 2017c). The passing grade is lower for coaches in Division 2 than for coaches in Division 1. Coaches in Division 3 do not have to pass the test. "A passing score is not a Division 3 requirement; however this feature will be used at the director of athletics discretion." (NCAA 2017c) This is an important difference between the Divisions because it means that the pool of potential candidates is limited in Division 1 and 2, but significantly larger in Division 3.

II. Data and Methods

A. Longitudinal and Spatial Analysis

The sample is inclusive from 1892 to 2015. To find a representative number of African American coaches and to analyze the influence of the creation of the Division system on racial representation, we use data starting from 1947 when the Division system was first introduced.

We want to assess what the split up meant for African American coaches in Division 2. Figure 3 shows how the share of African American coaches changed before and after the split in 1973 in Division 2. The point estimator for 1973, of the regression discontinuity design, using the conventional method is 10.6% (with a 95% confidence interval between 3.6% and 17.7%). After the split in 1973 the average share of African American coaches in Division 2 was significantly higher. In Table 1 we observe that the largest share of Division 3 teams in 1973 consists of former Division 2 teams. In the next step we want to examine if the higher (lower) share of African American coaches in Division 2 (Division 3) was temporary. Therefore, we analyze how the share of African American coaches in Division 2 and 3 evolved.

[Figure 3 near here]

Figure 4 shows the share of African American coaches for all Divisions. Since 1995 the share has been above 20% in Division 1, above 15% in Division 2, and below 10% in Division 3. We observe that the increase of African Americans in Figure 3 is mostly due to teams that employed White American coaches and switched to Division 3 from Division 2.

[Figure 4 near here]

To summarize, Figure 3 and Figure 4 have a twofold purpose. First, Figure 4 shows that the share of African American coaches in Division 3 is significantly lower than in the other two Divisions. Second, Figure 3 demonstrates that the 1973 split had an immediate impact on the share of African American coaches in Division 2.

The evolution of coaches in the Division system is a novel finding with unsatisfying results for minorities and organizing bodies. However, it is important to examine if the share of African American coaches is geographically clustered. Historical differences between southern and northern states regarding discriminatory behaviors and stereotypes are frequently discussed in the literature (Wilson

1996; Kuklinski, Cobb, and Gilens 1997). The geographical examination is important to corroborate whether there are institutions from specific regions with a significant different representation of African Americans among coaches.[9]

[Map 1 near here]

Map 1 shows the share of African American coaches in every Division since 1973.[10] The map confirms the results from Figure 4, regarding the decrease in the share of African American coaches in Division 3 and outside the Division system. Additionally, we see that a lower share of African American coaches is not clustered in the southern states and a higher share is not clustered on either the east or the west coast. However, these results do not completely clarify whether the shares are spatially similar since differences within a state can exist.

Map 2 is an extract from Map 1, where the share of African American coaches is examined at the county level instead of at the state level. We include the county level because regional differences between institutions within the same state might be responsible for the different share of African American coaches. Because a full scale map of the US with county data reduces the clarity of the results, we choose, as an example for the US, to reduce Map 2 on New England. Every other US region shows similar results and would be as appropriate.

[Map 2 near here]

Map 2 clarifies one important point; the share of African American coaches is independent of both county and region. While some counties have a comparably higher share of African American coaches in Division 1 and 2, the same counties have a lower share in Division 3 and outside the Division system. These results confirm that neither the states nor the regions are responsible for the different share of African American coaches.

B. Empirical Approach

Next, we analyze whether institutional characteristics help to explain the share of African American coaches. We construct the following model:

$$Y_{itd} = \beta_0 + \zeta * \mathbf{X}_{itd} + \gamma * \mathbf{Z}_{itd}$$

The above equation specifies the model we use. The regressand is the race of the coach who is hired by school i at time t in Division d. Y is a binary regressand that distinguishes between African- and White American coaches.

[Table 2 near here]

[9] Although information about very few Canadian and Puerto Rican institutions exist, we do not include them in our analysis as they do not provide sufficient observations.

[10] We include the share of African American coaches for every decade in every Division in the appendix *cf.*, Appendix Map 2.1-2.4

Table 2 provides an overview of the data. We distinguish between four different ethnic groups: African, Asian, Hispanic, and White. We do not include Asian- and Hispanic Americans in our analysis because they are almost non-existent in our dataset (they compose less than 0.1%). For the same reason we do not include female coaches.

The vector **X** is a set of school characteristics. Arcidiacono and Koedel (2014) explore determinants of the graduation rate gap between African American and White American students. They find that urban campuses and low-quality schools worsen the graduation rates of African Americans. Therefore, we incorporate school characteristics. We include whether the school is a historical African American school, the number of enrolled students, the share of enrolled African American students, the in-state tuition and fees for full-time undergraduate students, if the school is private or public, the average salary for faculty members, and a one-year time lag of the school's winning percentage.

At the institutional level we indicate if the institution is a historically black college or university (HBCU). HBCUs "were established to serve the educational needs of black Americans. Prior to the time of their establishment, and for many years afterwards, blacks were generally denied admission to traditionally white institutions. As a result, HBCUs became the principle means for providing postsecondary education to black Americans." (US Department of Education, "Historically Black Colleges and Universities and Higher Education Desegregation," 1991). Accordingly, it is important to see if African American coaches are mainly hired at HBCUs (*cf.*, Fryer and Greenstone 2010). In addition to HBCUs, we include the share (percentage) of African American students to capture how different shares influence a school's decision to hire an African American coach.

The size of an institution, determined by the number of enrolled students, correlates to some extent only to the Division in which the institution participates.[11] Several institutions with a large number of students have no athletic participation in either Division 1 and/or 2. The same reasoning applies for school tuition. The analysis includes both the total number of enrolled students and the net student tuition, which is the amount of money the institution takes in from students after institutional grant aid is provided.

We differentiate whether an institution is public or private. Public institutions could have hiring regulations that differ from private institutions.[12] We include how much an institution pays on average to their faculty members. The choice of a new coach can significantly depend on the wage an institution offers.

The vector **Z** is a set of year and county state fixed effects. We distinguish between states and counties because historically, discrimination is unevenly distributed in the US. [13]

We gathered the data from three different sources. First, yearly college data (year, state, school, Division, and winning percentage) was available at the NCAA homepage. The location was available at the institution's homepage. When missing we looked the geographical information up in the

[11] For example, the correlation between enrolled students and Division 1 is 0.196.

[12] It is also reasonable to focus exclusively on undergraduate education (2-Year) and whether an institution is non-profit. However, this data was only available for a smaller dataset. We therefore decided not to include it.

[13] The following territories are included in the variable "State" but omitted in the analysis: British Columbia, Nova Scotia, Puerto Rico, and Quebec.

Integrated Postsecondary Education Data System (IPEDS). Second, ethnic coach information for recent observations was available at the school's sports homepage. However, the majority of the observations was gathered by inspecting historical yearbook records. A direct contact with schools or coaches was needed for several missing observations. If yearbook records or school contacts are unable to provide us with this information we omitted the coach from the following analysis. Third, financial and enrollment information was extracted from the IPEDS.

We use data beginning with 1987 for the empirical analysis because complete IPEDS data is only available since then. The graphical analysis employs the whole dataset since the NCAA started the Division system.

To examine the difference D between the schools, the following formula is presented:

$$D_{it} = Y_{Ait} - Y_{Bit}$$

where Y is the regressand (*i.e.*, *CoachRace*) of the previously specified model. A specifies either Division 1 and Division 2 combined (models 1 and 2) or Division 1 (models 3 and 4). B specifies either Division 3 and schools outside the Division system (models 1 and 3) or Division 3 (models 2 and 4). We choose these four models because the split up in 1973 affected all Divisions and also schools from outside the Division system (*cf.*, Table 2). Division 1 was the least influenced by the split up. Thus, the results from models 3 and 4 are the most interesting.

To examine D we use the Blinder-Oaxaca decomposition. This method is used to assess group differences (*cf.*, Løken, Mogstad and Wiswall 2012; Angrist, Pathak and Walters 2013).

[Table 3 near here]

Table 3 shows the results from the decomposition. In every model the share of African American coaches is significantly higher in Division 1 and Division 2. The magnitude of the difference is lower in model 3 and 4. The decomposition divides the difference in unexplained and explained variation. Both explained and unexplained variation consist of the covariates of our model.

A large share of the explainable differences in every model can be explained by the fact that Division 3 institutions and institutions outside the Division system are less often HBCUs and have a lower share of African American students. All other covariates have either no statistcally significant influence or their magnitude varies throughout the models (*viz.*, average school faculty salary). Accordingly, the share of African American coaches in Division 3 and outside the Division system would be between 6.7% and 7.9% higher if these institutions worked under similar conditions as institutions in Division 1 and 2.

Nonetheless, the magnitude of the unexplainable part, which in the literature is often associated with discrimination, is substantial and highly statistically significant. It ranges between 5.7% (model 3) and 7.8% (model 2).

C. Executive labor market implications

We want to assess how the years of African American coaching would change if Division 3 and Division 2 had equal requirements. Table 3 showed that the unexplained variation is responsible for almost half of the difference. The calculation is as follows:

$$\triangle Coach_j = \Big[\sum_{i=1973}^{2015} \frac{(Div_{xi} * Inst_{xi} \sum_{i=1}^{n})}{(Div_{yi} * Inst_{yi} \sum_{i=1}^{n})} * Div_{yi} \Big] * Share\,Unexpl.Var._j - Div_{yi}$$

$\triangle Coach_j$ measures the difference, in terms of employing an African American, between Division(s) x and Division(s) y. Division x is the number of African American coaches in either Division 2 or Division 1 and 2. Division y is the share of African American coaches in either Division 3 or Division 3 and outside the Division system (*cf.*, Table 3). The subscript j defines the model number (*viz.*, 1-4) from Table 3. *Inst* defines the number of institutions that participated in either y or x. $Share\,Unexpl.Var._j$ is the unexplained share of the Decomposition from Table 3.

$$\triangle Coach = \begin{cases} Model1 : 490\,coaches \\ Model2 : 471\,coaches \\ Model3 : 314\,coaches \\ Model4 : 308\,coaches \end{cases}$$

The results show that between 308 (model 4) and 490 (model 1) more African American coaches would have been employed if the conditions between the Divisions were the same.[14] 488 African American coaches worked in Division 3 between 1973 and 2015. The change in requirements between Divisions, with respect to model 1 - 4, would have increased the total number in Division 3 between 95.3% and 71.7%.

However, a more stringent view regarding the employment of African Americans in college basketball would assume that employment is equally distributed between potential candidates (*cf.*, Figure 1). In this scenario the share of African American coaches even in Division 1 is far too low. Accordingly, the results from model 1-4 display the lowest possible impact.

III. Robustness checks

We include the following robustness checks:
In Figure 3 our point estimate in 1973 is estimated by using the conventional method in regression discontinuity design. However, recent empirical literature (*e.g.*, Calonico, Cattaneo, and Titiunik 2015) suggests that other estimators are also appropriate. Accordingly, we include the so called bias-corrected and robust estimators in Table Figure 3R. All estimators are larger than 9.8% and have a 95% confidence interval which, at the lowest, is above zero.

[14] The mean tenure between Divisions for all years for African Americans is 5.5 years. Dividing the total years by tenure is equal to the number of coaches. Thus, the same calculation could be done with years.

The analysis from Table 3 can also be performed with a logit. For a more detailed discussion regarding the benefit of using either model see both Angrist (2001) and Beck and Katz (2011). However, the differences between the logit model (Table 3R) and the OLS model (Table 3) are only marginal. The most important difference between the two models is that the unexplained part for model 1 and model 3 is larger in the logit model (Table 3R).

We examine the data from Map 2 using a hot- and cold spot analysis. We use the getis-ord analysis to examine if a county and counties in its vicinity, comprise a regional cluster. It examines whether one region has either a high or low value and if the regions in its vicinity also has a high or low value. Our results show that no clustered regions throughout the US exist in relation to the results of Map 2. For discrimination on the county level to be valid, hot spots should be at the same spots throughout the maps over time.

IV. Discussion

Previous research argues that sports competitions are laboratories for economic issues (Kahn 2000). Men's college basketball provides information about the organizational structure and the evolution of African American and White American coaches. College basketball offers an opportunity to examine the characteristics of institutions and coaches that influence and consolidate discriminatory behaviors.

Arrow (1998) explains that discrimination was omnipresent in daily life in the US before the Civil Rights Act of 1964(*e.g.*, segregation in public facilities) and thus there was no need to detect it in special situations. This argument is evidently correct when observing the amount or participation of black athletes or coaches in the beginning of college basketball (Yetman et al. 1982). However, no legal basis for active discriminatory behavior exists anymore. Accordingly, the asymmetric representation of African players and coaches, which is represented in Figure 1, denotes an intriguing but irritating issue.

Furthermore, the number of African American coaches is significantly lower in Division 3 than in the other Divisions. Gordon (2008) explains that the issue of underrepresentation of African Americans in leadership positions in college sports has three main problems. First, the lack of fairness and meritocracy that sports are supposed to represent; second, the lack of mentors and role models for African American students; and, third, the influential position of White head coaches that consolidates their importance.

The motivation for racial preferences and the reasons for manifestations of discrimination are diverse, which prevents any theoretical reasoning from identifying definitive causes and effects (Arrow 1998). This paper empirically shows characteristics of colleges and universities and subtleties about the structural organization of the NCAA Men's Basketball which explain the underrepresentation of African American coaches. Arguments from the customer discrimination (Darity and Mason 1998) and the network approach (Arrow 1998) help shed light on the racial disparities in college basketball.

Previous experience is a valuable asset in management and leadership positions (*e.g.*, in sports teams, Dawson and Dobson 2002; in small and medium-sized enterprises, Soriano and Castrogiovanni

2012). However, the results in this study show that African American coaches only represent 16.4% of all coaches in NCAA Men's Basketball. This is unreasonable because almost without exemption coaches in NCAA basketball previously played in the NCAA and, thus, bring experience in the same industry. Accordingly, the pool of potential candidates consists of at least 60% of African Americans. If athletic departments deliberately neglect African American coaches in the hiring process, not only African Americans are compromised but also the performance of the institutions.

A possible cause of this disparity is the network approach, which explains that the maintenance of social interactions and network referrals perpetuates discriminatory behaviors. Hawkins (2013) argues that NCAA institutions are predominantly managed by white people, and this might affect the hiring process. Racial bias in sports institutions acts similar to the glass ceiling phenomenon, which states invisible barriers do not allow women to reach top leadership positions (Morrison, White, and Van Velsor 1987). Two covariates diminish this effect in college basketball: the number of enrolled African American students and the division in which the institutions compete.

The decomposition amplifies findings that the number of enrolled African American students in colleges and universities have a positive influence on the representation of African American coaches. The preference of African American students for coaches with a similar racial background diminishes the representation gap. These results are in line with the customer discrimination story, *i.e.*, the preferences of customers influence institutional decisions (Darity and Mason 1998), and work in both directions.

Most African American coaches are employed in colleges and universities in Division 1 and Division 2 (see Figure 4). The uneven distribution of African American coaches throughout the Divisions has been exacerbated with the introduction of Division 3. One explanation is that the stronger regulations in Division 1 and 2, and the need to deliver performance, hinders discrimination. This confirms the argument that discrimination based on prejudices in highly competitive environments is less prominent (see *e.g.*, Dovidio and Gaertner 2000).

Another possible theoretical explanation for the underrepresentation of African American managers in Division 3 is related to the idea of imperfect information (Darity and Mason 1998). Most of the athletic departments are managed by White Americans. Because it is not critical to hire the best possible candidate, due to the ambiguous requirements regarding performance delivery, coaches who are a priori culturally closer are favorites.

The requirements for coaches, refer to the requisite qualification to become a coach in the different divisions. The test for coaches in Division 3 is a formality and opens the market for a broad set of candidates. Division 2 and 3 candidates must pass a sophisticated test controlled by the NCAA. Moreover, the need to hire a coach who performs well limits the number of possible White American coaches. Fewer African American coaches are hired in Division 3 because they compete with a larger share of White American candidates.

Finally, the 1973 introduction of Division 3 shaped the role of African American coaches in NCAA Men's Basketball. The structural change aimed to enhance competitive balance within the

divisions by reducing the differences between big and small institutions within a Division. The policy change also affected the position of African American coaches in the labor market. To counteract, the Strategic Alliance Matching Grant and the Coaching Enhancement Grant Program for institutions in Division 2 and 3 should create coaching positions for ethnic minorities (Lapchick, Hoff, and Kaiser 2010; NCAA, 2017a). Despite this effort, we find that the number of African American coaches remains significantly lower. Thus, complementary actions are needed to reinforce the access of African Americans to head coaching positions.

These results also have implications for other institutions that are concerned with the inclusion of minorities in executive positions. Organizational bodies and supporting associations need to take part in actions to become more inclusive and to promote minorities. In the specific college basketball context, the Black Coaches Association (BCA), which works to improve the conditions of coaches in NCAA or NCAA Men's Coaches Academy (NCAA 2017a), can focus on the Divisions where the gap between African American and White American coaches is larger. Future efforts must explore the differences in the structure and governance of the Divisions that generate racial inequality.

V. Conclusion

In this paper we use college basketball to examine how the number of African Americans and White Americans evolved in the executive labor market.
The results show that, although African American coaches provide the large majority of potential coaches, their employment number has been below 20% and it is not increasing.

We empirically show that African Americans are less often employed in Division 3. The highest share of African Americans is in Division 1 followed by Division 2. Our results clarify that this difference is not due to idiosyncratic institutional or spatial attributes. Clearly, it is not the goal of the college basketball institutional bodies to amplify or increase discrimination:

> *As a core value, the NCAA believes in and is committed to diversity, inclusion and gender equity among its student-athletes, coaches and administrators. We seek to establish and maintain an inclusive culture that fosters equitable participation for student-athletes and career opportunities for coaches and administrators from diverse backgrounds.*[15]

One possible explanation is that Division 3 has different requirements for both coaches and institutions. Furthermore, institutions in Division 3 have different requirements for coach performance. The difference in competitiveness leads to a pool of candidates that is significantly larger for Division 3. The share of White Americans as potential coaches increases and fewer African American coaches are hired.

[15] NCAA, November 9, 2017, "Division III Diversity and Inclusion", http://www.ncaa.org/about/resources/inclusion/division-iii-diversity-and-inclusion.

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TABLE 1 - DIVISION SPLIT UP 1973

Year		Division 1	Division 2	Division 3	Outside Div. System
1972		139	268	/	180
1973		150	158	133	165
Net change 1973	Division 1	/	17	/	3
	Division 2	6	/	/	9
	Division 3	2	101	/	22
	Outside Div. System	0	6	/	/

TABLE 2 - DESCRIPTIVE STATISTICS FOR COACHES

Variable	Mean	Std. Dev.	Min.	Max.	N
Year	1974	28.5	1892	2015	53,462
White American coach	0.903	0.296	0	1	25,866
Division 1	0.237	0.425	0	1	53,462
Division 2	0.233	0.423	0	1	53,462
Division 3	0.185	0.388	0	1	53,462
Outside Division System	0.346	0.476	0	1	53,462
HBCU	0.055	0.228	0	1	15,795
Private institution	0.559	0.496	0	1	18,440
Winning Percentage	51.6	20.3	0	100	53,128
African American students	0.101	0.181	0	1	18,297
Total enrolled students	10,729	22,697	67	272,128	18297
Average school faculty salary	52,913	18,569	0	166,697	16,210
Tuition and fees for students in US 2012 $	8,984	8,627	0	45,212	18,113
Total number of institutions				1,219	53,462
State*				56	53,445
County				544	52,690

*Includes Canadian provinces and US territories

TABLE 3 - MODEL RESULTS (OLS)

Variables	Model 1		Model 2		Model 3		Model 4	
	Div. 1 & 2	Div. 3 & No	Div. 1 & 2	Div. 3	Div. 2	Div. 3 & No	Div. 2	Div. 3
Observations	7,962	5,602	7,962	4,495	3,212	5,602	3,212	4,495
CoachRace	0.789	0.943	0.789	0.942	0.813	0.943	0.813	0.942
	(0.015)	(0.010)	(0.015)	(0.011)	(0.025)	(0.010)	(0.025)	(0.011)
D	0.154		0.153		0.130		0.129	
	(0.017)		(0.018)		(0.026)		(0.027)	
Explained	0.077		0.072		.076		0.072	
	(0.014)		(0.014)		(0.021)		(0.022)	
Unexplained	0.077		0.081		0.054		0.057	
	(0.017)		(0.018)		(0.021)		(0.022)	
	Expl.	Unexpl.	Expl.	Unexpl.	Expl.	Unexpl.	Expl.	Unexpl.
HBCU	0.036	0.021	0.039	0.120	0.056	-0.164	0.060	-0.066
	(0.008)	(0.349)	(0.008)	(0.454)	(0.017)	(0.322)	(0.017)	(0.465)
Total enrolled students	0.004	0.007	0.004	0.008	0.000	-0.007	-0.000	-0.006
	(0.004)	(0.010)	(0.004)	(0.012)	(0.000)	(0.004)	(0.001)	(0.005)
Share of African American students	0.023	-0.004	0.024	-0.003	0.026	-0.018	0.026	-0.017
	(0.006)	(0.014)	(0.006)	(0.017)	(0.011)	(0.015)	(0.011)	(0.020)
Last years winning percentage	-0.001	-0.014	-0.001	-0.011	-0.002*	0.028	-0.002	0.032
	(0.001)	(0.022)	(0.001)	(0.025)	(0.001)	(0.026)	(0.001)	(0.028)
Student tuition	0.011	-0.039	0.012	-0.061	0.018	-0.106	0.022	-0.131
	(0.009)	(0.037)	(0.012)	(0.044)	(0.011)	(0.045)	(0.015)	(0.053)
Type of institution	-0.013	0.116	-0.012	0.153	-0.017	0.257	-0.018	0.296
	(0.013)	(0.085)	(0.014)	(0.100)	(0.012)	(0.097)	(0.013)	(0.112)
Average school faculty salary	0.017	0.083	0.004	0.088	-0.005	0.026	-0.016	0.030
	(0.005)	(0.089)	(0.004)	(0.103)	(0.003)	(0.122)	(0.007)	(0.134)
Constant		-0.128		-0.271		-0.025		-0.167
		(0.352)		(0.459)		(0.331)		(0.486)
Observations	13,564		12,457		8,814		7,707	
Year FE	Y		Y		Y		Y	
Cluster County Level	Y		Y		Y		Y	

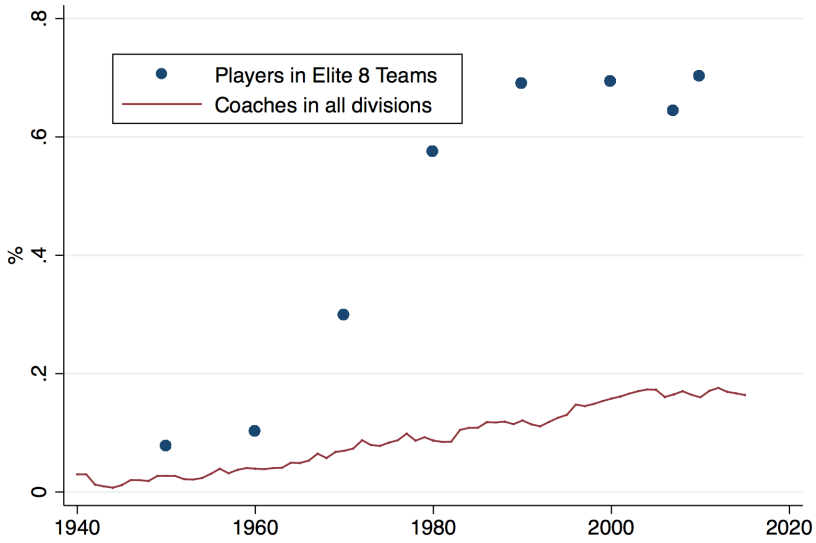


Figure 1. Share of African American players and coaches

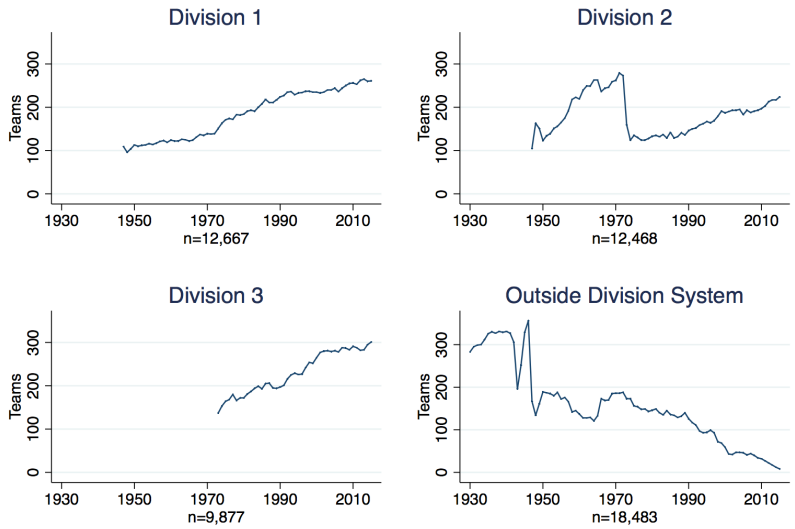


Figure 2. Total number of teams by Division

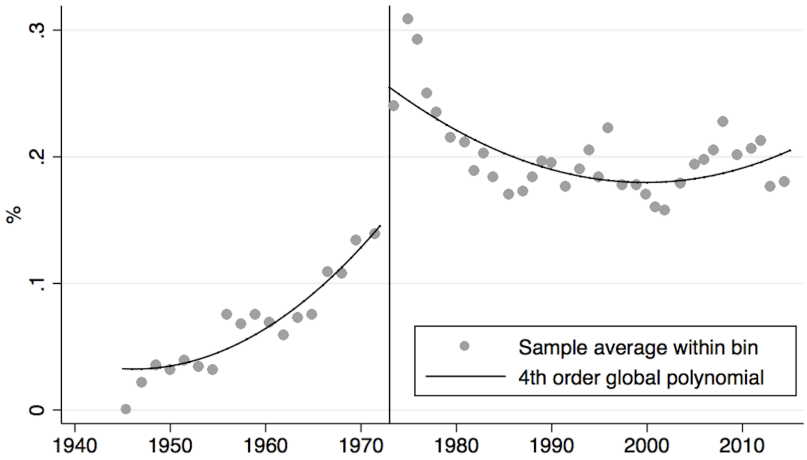


Figure 3. African American coaches in Division 2

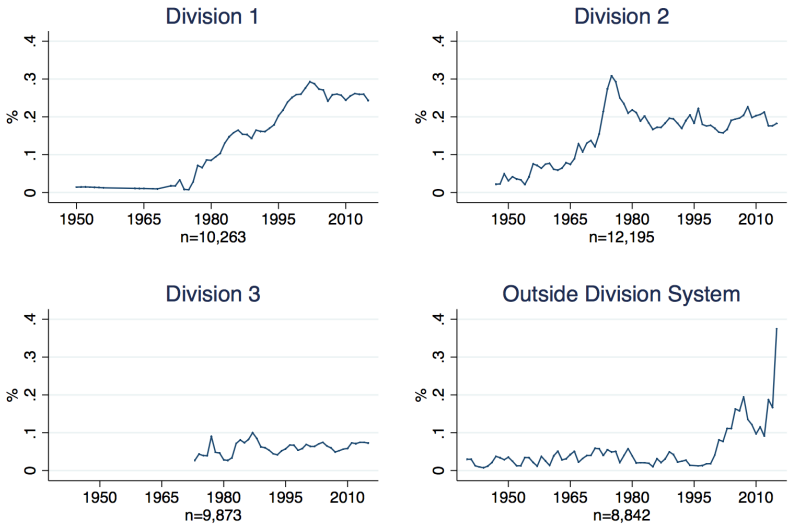
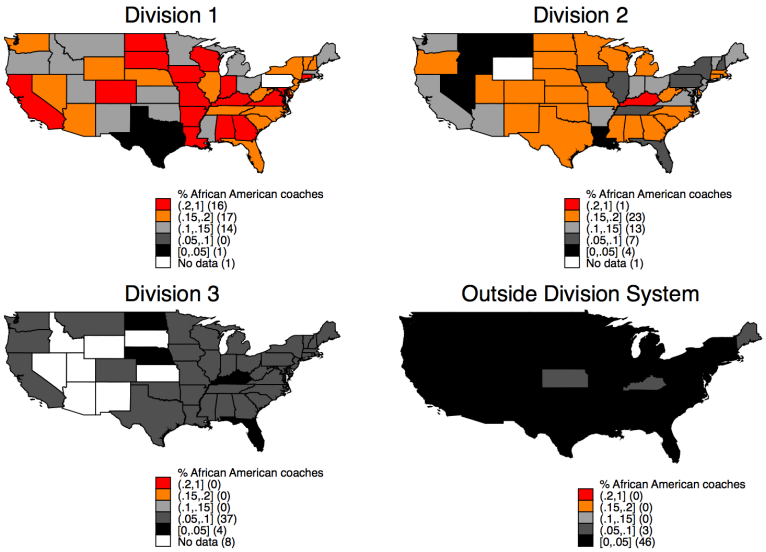
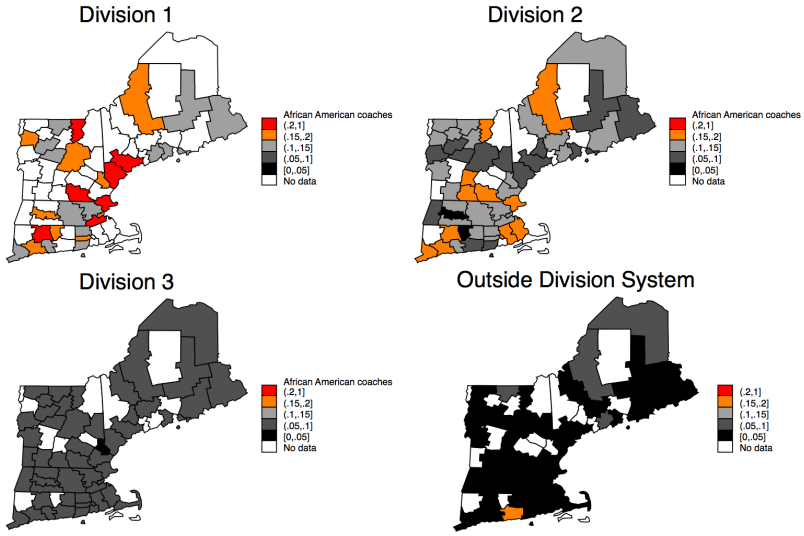


Figure 4. African American coaches in Divisions



Map 1. Coaches in Divisions

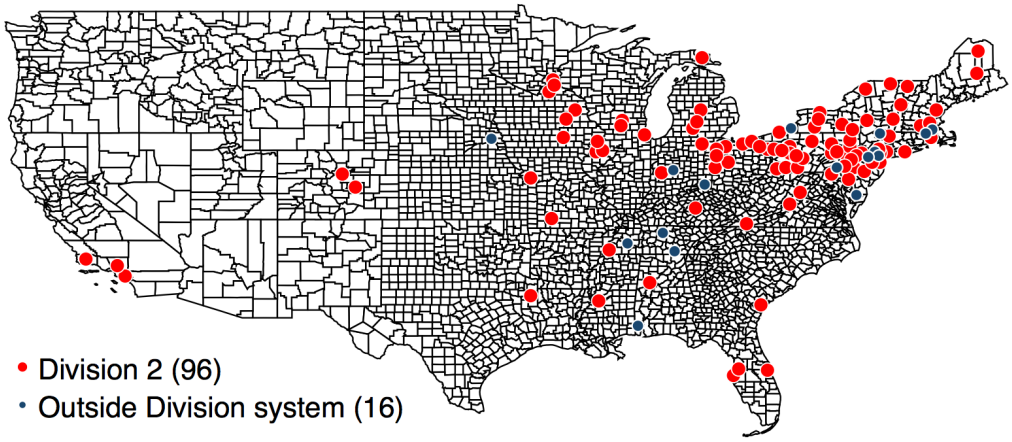


Map 2. Coaches in Divisions in counties:
At the example of New England

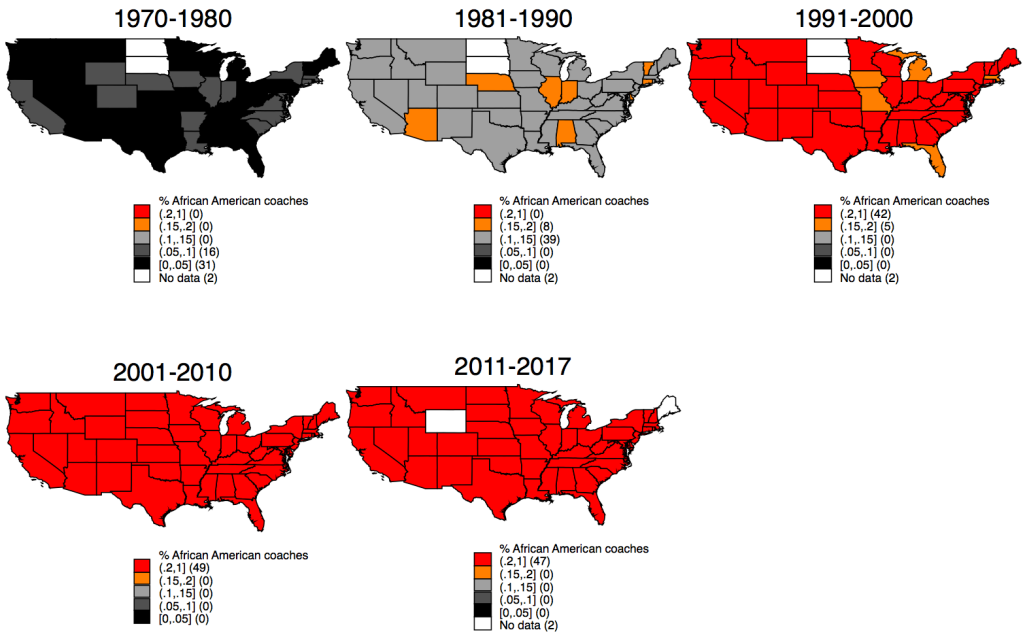
Appendix

APPENDIX TABLE 1 - FIGURE 3 RESULTS

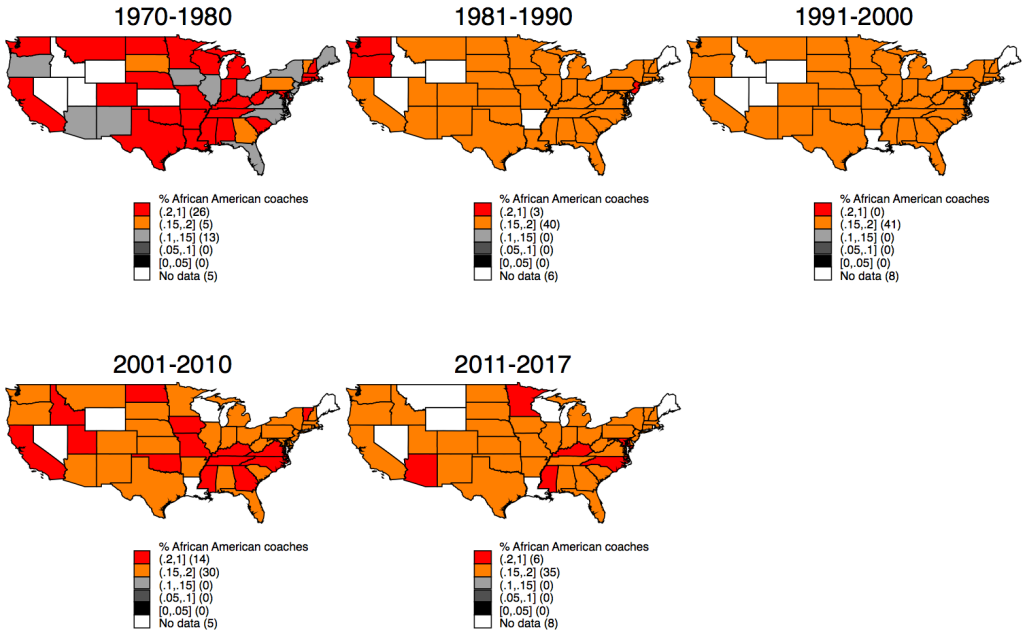
School	State	School	State	School	State
Albion	MI	Hope	CA	Rensselaer	NY
Alfred	NY	Husson	ME	Rochester	NY
Alma	MI	Ithaca	NY	Rockford	IL
Aquinas	MI	Johnson St.	VT	Roger Williams	RI
Augustana	IL	Knox	IL	Rowan	NJ
Baldwin Wallace	OH	Kutztown	PA	SUNY Geneseo	NY
Beloit	WI	Lake Superior St.	MI	SUNY Oneonta	NY
Benedictine	IL	LeMoyne-Owen	TN	Saint Leo	FL
Binghamton	NY	Lincoln	PA	Salem St.	MA
Brandeis	MA	Luther	IA	Savannah St.	GA
Bridgewater	VA	Lycoming	PA	Southampton	NY
Brockport	NY	Macalester	MN	St. Lawrence	NY
CCNY	NY	Marist	NY	St. Olaf	MN
Capital	OH	McDaniel	MD	Stevens	NJ
Castleton	VT	Me.-Presque Isle	ME	Stillman	AL
Centre	KY	Memphis	TN	Suffolk	MA
Clark	MA	Millersville	PA	Susquehanna	PA
Clark Atlanta	GA	Millsaps	MS	Swarthmore	PA
Colorado Col.	CO	Monmouth	NJ	TCNJ	NJ
Colorado Mines	CO	Monmouth	IL	Thiel	PA
DePauw	IN	Montclair St.	NJ	Wartburg	IA
Defiance	OH	Morehouse	GA	Wash. & Jeff.	PA
Drury	MO	Mount Union	OH	Wash. & Lee	VA
Eckerd	FL	Muhlenberg	PA	Washington Col.	MD
Emory & Henry	VA	Neb. Wesleyan	NE	Westmont	CA
Findlay	OH	New Hampshire	NH	Wheaton	IL
Fitchburg St.	MA	Nichols	MA	Wiley	TX
Florida Tech	FL	North Park	IL	Wilkes	PA
Framingham St.	MA	Oberlin	OH	William Jewell	MO
Grinnell	IA	Ohio Northern	OH	Wittenberg	OH
Grove City	PA	Olivet	MI	Wm. Paterson	NJ
Hartwick	NY	Plattsburgh St.	NY	Worcester St.	MA
Hawthorne	CA	Pomona-Pitzer	CA	Yeshiva	NY
Heidelberg	OH	Pratt	NY		
Hiram	OH	Queens	NY		



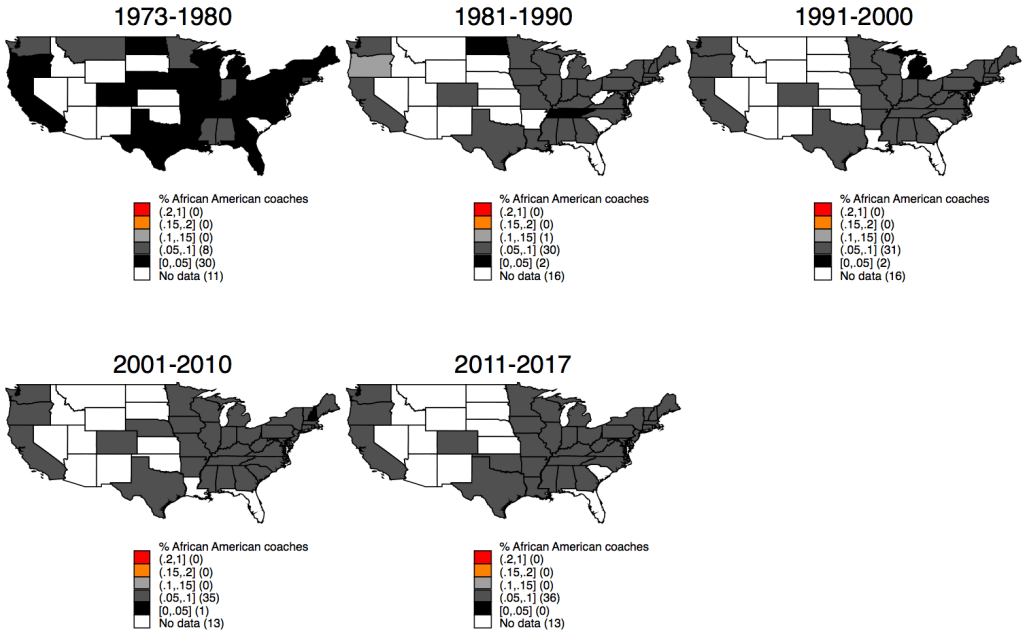
Appendix Map 1. Colleges and Universities
that switched to Division 2 in 1973



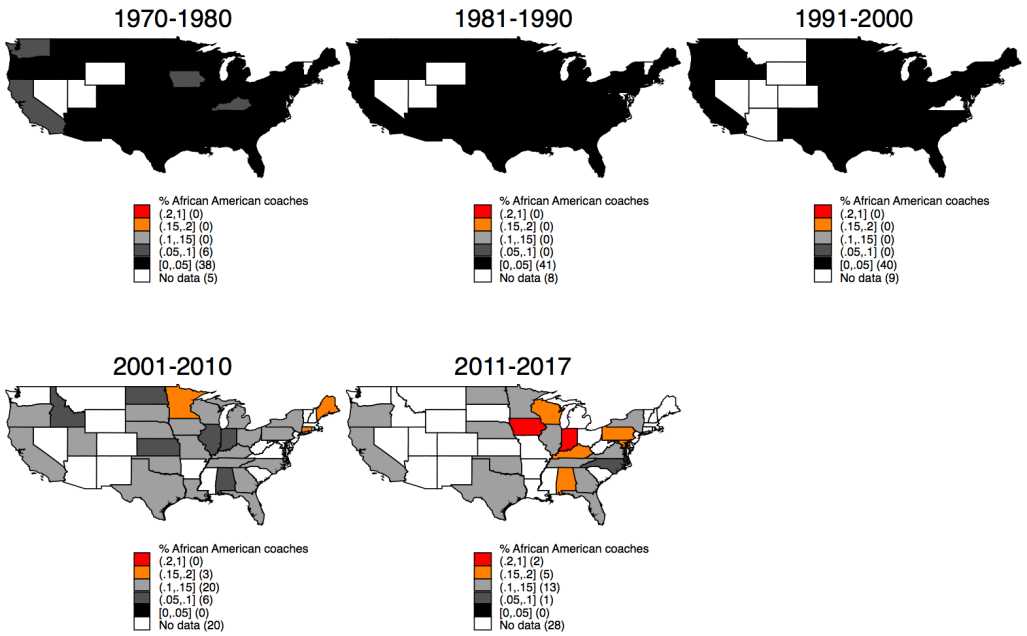
Appendix Map 2.1. Coaches in Division 1



Appendix Map 2.2. Coaches in Division 2



Appendix Map 2.3. Coaches in Division 3



Appendix Map 2.4. Coaches outside Division system

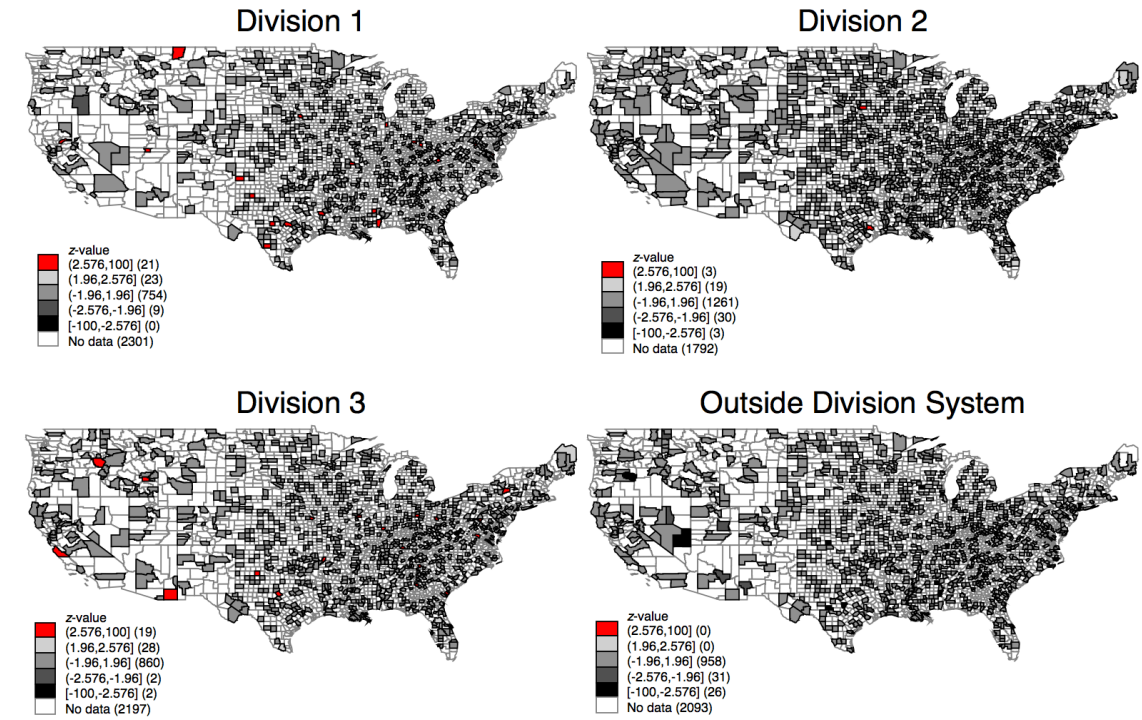
Robustness checks

TABLE FIGURE3R - FIGURE 3 RESULTS

VARIABLES	RD Estimate	Confidence interval
Conventional	0.106	[.036;.177]
	(0.0359)	
Bias-corrected	0.0981	[.028;.168]
	(0.0359)	
Robust	0.0981	[.016;.180]
	(0.0419)	
Observations	8,977	

TABLE 3R - MODEL RESULTS (LOGIT)

Variables	Model 1		Model 2		Model 3		Model 4	
	Div. 1 & 2	Div. 3 & No	Div. 1 & 2	Div. 3	Div. 2	Div. 3 & No	Div. 2	Div. 3
Observations	7,962	5,602	7,962	4,474	3,212	5,602	3,212	4,474
CoachRace	0.789	0.943	0.789	0.946	0.813	0.943	0.813	0.946
	(0.015)	(0.010)	(0.013)	(0.010)	(0.019)	(0.009)	(0.019)	(0.010)
D	0.154		0.158		0.130		0.134	
	(0.017)		(0.017)		(0.021)		(0.022)	
Explained	0.064		0.066		.074		0.076	
	(0.007)		(0.008)		(0.010)		(0.011)	
Unexplained	0.091		0.091		0.056		0.058	
	(0.018)		(0.019)		(0.020)		(0.022)	
	Expl.	Unexpl.	Expl.	Unexpl.	Expl.	Unexpl.	Expl.	Unexpl.
HBCU	0.022	-0.113	0.027	-0.442	0.045	-0.140	0.056	-0.385
	(0.005)	(0.181)	(0.006)	(0.081)	(0.013)	(0.129)	(0.018)	(0.092)
Total enrolled students	0.003	0.004	0.003	0.005	0.000	-0.002	-0.000	-0.001
	(0.003)	(0.005)	(0.003)	(0.006)	(0.000)	(0.002)	(0.001)	(0.003)
Share of African American students	0.023	-0.018	0.028	-0.020	0.042	-0.019	0.050	-0.020
	(0.005)	(0.011)	(0.006)	(0.014)	(0.011)	(0.010)	(0.014)	(0.012)
Last years winning percentage	-0.001	0.047	-0.002	0.041	-0.004	0.051	-0.005	0.046
	(0.001)	(0.023)	(0.001)	(0.026)	(0.003)	(0.022)	(0.003)	(0.024)
Student tuition	0.010	-0.036	0.014	-0.070	0.028*	-0.057	0.039	-0.083
	(0.010)	(0.030)	(0.015)	(0.039)	(0.016)	(0.027)	(0.023)	(0.034)
Type of institution	-0.010	0.127	-0.010	0.192	-0.026	0.159	-0.031	0.209
	(0.015)	(0.084)	(0.017)	(0.100)	(0.019)	(0.069)	(0.023)	(0.080)
Average school faculty salary	0.018	-0.037	0.005	-0.025	-0.009	-0.041	-0.033	-0.032
	(0.005)	(0.075)	(0.004)	(0.084)	(0.007)	(0.072)	(0.017)	(0.077)
Constant		0.071		0.329		0.057		0.250
		(0.157)		(0.132)		(0.116)		(0.125)
Observations	13,560		12,443		8,821		7,704	
Year FE	Y		Y		Y		Y	
Cluster County Level	Y		Y		Y		Y	



Map 2R. Z-scores for Coaches in Divisions in counties